Anisotropic collision-induced Raman scattering by Ne-Ne: Evidence for a nonsmooth spectral wing

Titre	Anisotropic collision-induced Raman scattering by Ne-Ne: Evidence for a nonsmooth spectral wing
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Auteur	Chrysos, Michel [1], Dixneuf, Sophie [2], Rachet, Florent [3]
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Résumé en anglais	We report the anisotropic collision-induced scattering (CIS) spectrum of two neon atoms at room temperature. The covered spectral range hitherto restricted to 170 cm−1 is here tripled. Both our measurements and quantum-mechanical calculations obtained on the basis of large-scale ab initio anisotropy representations reveal a well-defined saddle-shaped wing. This peculiar structure is experimental evidence of a binary CIS line shape with an aspect other than a smooth wing in a logarithmic plot. Equally interesting is the fact that this feature has been predicted (though only qualitatively) by the simple semiempirical model long ago reported by Meinander, Tabisz and Zoppi J. Chem. Phys. 84 3005 (1986), but no emphasis had at that time been placed on the aspect of the wing of the model spectrum probably due to the lack of high-frequency experimental data.
URL de la notice	http://okina.univ-angers.fr/publications/ua1969 [4]
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[1] http://okina.univ-angers.fr/michel.chrysos/publications
[2] http://okina.univ-angers.fr/publications?f[author]=16738
[3] http://okina.univ-angers.fr/florent.rachet/publications
[4] http://okina.univ-angers.fr/publications/ua1969
[5] http://dx.doi.org/10.1103/PhysRevA.80.054701